
Restless Legs Syndrome

Types, Causes, Symptoms, Diagnosis, and Treatments

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Abstract

Restless Legs Syndrome is a neurological condition that causes an uncontrollable urge to move the legs, often accompanied by uncomfortable sensations. These symptoms typically occur during periods of rest, particularly in the evening and at night, leading to sleep disturbances. The exact cause of this condition remains unknown, but genetic, environmental, and neurological factors contribute to its development. This article provides a comprehensive guide to restless legs syndrome, including its causes, symptoms, diagnosis, treatment, and long-term management. Understanding this condition is crucial for patients and their loved ones to seek appropriate medical care and improve their quality of life. The information is

presented in simple terms to ensure accessibility for all readers.

Keywords: complications of restless legs syndrome; diagnosis of restless legs syndrome; how common is restless legs syndrome; living with restless legs syndrome; pathophysiology of restless legs syndrome; prognosis of restless legs syndrome; risk factors and causes of restless legs syndrome; symptoms of restless legs syndrome; treatment and management of restless legs syndrome; types of restless legs syndrome; what is restless legs syndrome

Introduction

Restless Legs Syndrome is a disorder that affects the nervous system and significantly impacts a person's daily life and sleep quality. The condition is characterized by an uncomfortable sensation in the legs that creates an irresistible need to move them. This movement temporarily relieves discomfort but disrupts relaxation and sleep. The symptoms are most severe in the evening and night, making it difficult for individuals to fall or stay asleep. Over time, this lack of restful sleep can lead to fatigue, mood disturbances, and impaired daily functioning. Understanding restless legs syndrome, its causes, risk factors, and available treatments is essential for managing the condition effectively (1-3).

What is Restless Legs Syndrome?

Restless Legs Syndrome is a chronic neurological condition that triggers abnormal sensations in the legs, leading to an overwhelming urge to move them. The sensations are often described as crawling, tingling, burning, or itching and occur most frequently when a person is lying down or sitting for extended periods. Movement provides temporary relief, but the symptoms tend to return when the individual

remains still. The disorder is believed to be linked to an imbalance of dopamine, a brain chemical involved in regulating movement. Genetic factors, including variations in the MEIS1, BTBD9, and PTPRD genes, have been associated with an increased risk of developing restless legs syndrome.



Restless Legs Syndrome is a chronic neurological condition that triggers abnormal sensations in the legs, leading to an overwhelming urge to move them. Attribution: AndreyPopov from Getty Images via Canva.com

How Common is Restless Legs Syndrome?

Restless Legs Syndrome is a widespread condition that affects millions of people worldwide. Studies suggest that it occurs in approximately 5 to 10 percent of the general population, with a higher prevalence among older adults and women. Many individuals with restless legs syndrome may go undiagnosed, as symptoms can be mild or mistaken for other conditions. The severity of the disorder varies from person to person, with some experiencing occasional

discomfort while others struggle with daily symptoms that interfere with sleep and overall well-being. Genetic and environmental factors play a role in determining the likelihood of developing the condition.

Types of Restless Legs Syndrome

Restless Legs Syndrome can be classified into two primary types based on its underlying cause. Primary restless legs syndrome is the most common form and is believed to have a strong genetic component. It often begins in childhood or adolescence and tends to worsen over time. The symptoms may occur without any identifiable medical condition. Secondary restless legs syndrome is associated with underlying health conditions such as iron deficiency, kidney disease, diabetes, and pregnancy. In these cases, treating the underlying condition can help alleviate restless legs syndrome symptoms.

Risk Factors and Causes of Restless Legs Syndrome

Several factors contribute to the development of restless legs syndrome. Genetic predisposition plays a significant role, as individuals with a family history of the condition are at higher risk. Variants in genes such as MEIS1 and BTBD9 have been linked to restless legs syndrome, suggesting a hereditary component. Iron deficiency is another common cause, as low iron levels can affect dopamine function in the brain. Other risk factors include chronic diseases such as diabetes, kidney failure, and peripheral neuropathy, which can damage nerves and contribute to restless legs syndrome symptoms. Pregnancy is also associated with an increased likelihood of developing the condition, particularly during the third trimester.

Symptoms of Restless Legs Syndrome

The primary symptom of restless legs syndrome is an uncontrollable urge to move the legs, often accompanied by uncomfortable sensations such as tingling, crawling, burning, or aching. These sensations usually occur during periods of rest or inactivity and are temporarily relieved by movement. Symptoms are most pronounced in the evening and nighttime, leading to difficulty falling or staying asleep. Individuals with restless legs syndrome may frequently shift positions, stretch, or walk around to alleviate discomfort. In severe cases, the condition can significantly impact daily life, causing daytime fatigue, mood disturbances, and decreased productivity.

Pathophysiology of Restless Legs Syndrome

Restless Legs Syndrome is believed to be caused by a dysfunction in the brain's dopamine system, which is responsible for controlling movement. Dopamine imbalances can lead to abnormal signaling in the nervous system, triggering the urge to move the legs. Iron deficiency has also been implicated in the condition, as iron is essential for dopamine production. Research suggests that individuals with restless legs syndrome may have reduced iron levels in certain areas of the brain. Genetic factors, including variations in MEIS1 and BTBD9, may influence dopamine regulation and nerve function, contributing to the development of restless legs syndrome.

Diagnosis of Restless Legs Syndrome

Diagnosing restless legs syndrome is based on a person's symptoms and medical history. A healthcare provider will assess the presence of the four key diagnostic criteria: the urge to move the legs, symptoms triggered by rest or

inactivity, relief from movement, and worsening symptoms in the evening or night. Blood tests may be performed to check iron levels, as iron deficiency is commonly associated with restless legs syndrome. In some cases, sleep studies may be conducted to evaluate sleep disturbances and rule out other conditions such as sleep apnea.

Complications of Restless Legs Syndrome

Restless Legs Syndrome can lead to several complications that affect overall health and well-being. Sleep disturbances are the most common issue, as individuals with the condition often struggle with insomnia due to frequent leg movements. Chronic sleep deprivation can result in fatigue, difficulty concentrating, and mood changes such as anxiety and depression. Severe cases of restless legs syndrome can interfere with daily activities, reducing work performance and overall quality of life. The persistent discomfort may also contribute to increased stress levels and a higher risk of cardiovascular issues.

Treatment and Management of Restless Legs Syndrome

The treatment of restless legs syndrome focuses on relieving symptoms and improving sleep quality. Iron supplements may be recommended for individuals with low iron levels, as iron plays a crucial role in dopamine function. Medications such as dopamine agonists, including pramipexole (Mirapex) and ropinirole (Requip), can help regulate dopamine activity and reduce symptoms. Other treatment options include gabapentin (Neurontin) and pregabalin (Lyrica), which help alleviate nerve-related discomfort. Lifestyle changes, such as maintaining a

regular sleep schedule, engaging in moderate exercise, and avoiding caffeine or alcohol, can also help manage symptoms.

Prognosis of Restless Legs Syndrome

The prognosis of restless legs syndrome varies depending on its severity and underlying cause. Many individuals experience mild symptoms that can be managed with lifestyle modifications and occasional treatment. However, in more severe cases, symptoms may worsen over time, requiring long-term medical management. Treating underlying conditions, such as iron deficiency or diabetes, can lead to symptom improvement. Ongoing research continues to explore new treatment options to enhance the quality of life for individuals with restless legs syndrome.

Living with Restless Legs Syndrome

Living with restless legs syndrome requires a combination of lifestyle adjustments and medical care. Establishing a consistent sleep routine and practicing relaxation techniques can help reduce nighttime symptoms. Engaging in regular physical activity, such as walking or stretching, may provide relief. Understanding the triggers and available treatment options empowers individuals to take control of their symptoms and improve their daily well-being.

Conclusion

Restless Legs Syndrome is a chronic neurological condition that affects sleep and quality of life. Understanding its symptoms, causes, and treatment options is essential for managing the condition effectively. Advances in medical research continue to improve treatment approaches, offering hope for better symptom control.

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